

FY03 Goals – “Three” MEK Replacements

One of NASA Glenn Research Center's (GRC's) first steps in Pollution Prevention (P2) practices was to identify and replace "hazardous chemicals." Choosing hazardous chemicals is a common first step in greening any company, since it brings the most widespread and immediate impact - spent solvents make up 1/3 of hazardous waste, and are the #1 waste quantity-wise.

Kennedy Space Center (KSC) performed a service as P2 Lead Center in rating chemicals that are commonly used across centers. They list methyl ethyl ketones (MEK) as being a "1" on the carcinogen scale (not a 0) - meaning it is uncertain. Plus it gets a "6" (high) on soil mobility.

The P2 Committee also did additional research. Here are the negative aspects of MEK that were found:

- MEK increases enzyme activities that enhance the toxicity of other chemicals we're exposed to;
- MEK can permanently damage eyes, central nervous system, and brain with repeated exposure; and
- MEK can cross the placental barrier and enter the human fetus, possibly affecting development.

The following listing shows GRC's MEK replacements chronologically by month:

- February 2003: The Hangar (4) used **MEK** as a cleaner for a single-layer paint remover. They have switched to using **alcohol** instead.
Involved: Steve Hayes, Bud Schutte.

- May 2003: **Calibration Lab** (21-16) has disposed of and discontinued use of several **MEK** products. If further applications come up that need MEK strength, other alternatives will be found or the EPP area will be contacted.
Involved: Perry LaRosa, Dale Smejkal, and Jack Weigand.

- July 2003: **Garage** (104): Garage discontinued use of **DoAll Steel Ink Brush in a Can and Aerosol** products. These products contained MEK, acetone, toluene, and Xylene. If further applications come up that need MEK strength, other alternatives will be found or the EPP area will be contacted.
Involved: Howard Gregory, Dana Sanvido, Daryl Sanvido.

- August 2003: The Fabrication Shop (50) was using **MEK to clean solder joints**, but now uses **alcohol**.
Involved: Bob Wells.